



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/878,555	06/11/2001	Titus Lo	2001-0084	5160
30083	7590	09/03/2004	EXAMINER	
PERKINS COIE LLP/AWS P.O. BOX 1247 SEATTLE, WA 98111-1247			HA, DAC V	
		ART UNIT	PAPER NUMBER	
		2634		

DATE MAILED: 09/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/878,555	LO ET AL.	
	Examiner Dac V. Ha	Art Unit 2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 11 June 2001.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-28 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 18-20 is/are rejected.
 7) Claim(s) 1-17 and 21-28 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 6/11/01.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

DETAILED ACTION

Claim Objections

1. **Claims 1-17, 23-28** are objected to because of the following informalities:

Claim 1, all parameters "n", "d", "m" should be clearly defined.

Claim 6, all parameters "n", "d", "m" and "x" should be clearly defined.

Claim 13, all parameters "n", "d", "m" and "x" should be clearly defined.

Claim 23, all parameters "n", "d", "m", "T" and "x" should be clearly defined.

Claim 25, the parameter "m" should be clearly defined.

Claim 26, the parameter "m" should be clearly defined.

Claim 28, the parameter "m" should be clearly defined.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 18-20** are rejected under 35 U.S.C. 102(e) as being anticipated by Buehrer et al. (US 6,614,857) (hereinafter Buehrer).

Regarding claim 18, Buehrer discloses the claimed subject matter including "receiving a block of symbols;

estimating a channel using at least one of the symbols; choosing a group of symbols from the received symbols; compensating the group of symbols using the channel estimate; and re-estimating the channel using the group of compensated symbols and the at least one of the symbols" as follows. Buehrer discloses iterative channel estimation and compensation in which initial channel estimation is obtained on the basis of received signal symbols. Compensating the initial estimation for estimating the data and the channel is "re-estimated" on the basis of block of data symbols (Figure 1; Col. 2, lines 44-52; Col. 3, line 24 to Col. 4, line 45; Col. 6, lines 28-32).

Regarding claim 19, Buehrer also discloses the claimed subject matter "repeating the steps of choosing a group of symbols, compensating the group of symbols and re-estimating the channel" in Col. 2, lines 44-52; Col. 3, line 24 to Col. 4, line 45; Col. 6, lines 28-32.

Regarding claim 20, Buehrer also discloses the claimed subject matter "wherein the at least one of the symbols is a pilot symbol" in Col. 3, lines 27-29.

Allowable Subject Matter

4. Claims 1-17, 23-28 are allowed.
5. Claims 21-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jones et al. (US 6,757,241) disclose System For Interference Cancellation.

Belotserkovsky et al. (US 6,771,591) disclose Method And System For Processing Orthogonal Frequency Division Multiplexed Signals.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 571-273-3040. The examiner can normally be reached on 5/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dac V. Ha
Examiner
Art Unit 2634